

May 02, 2016

Tom Moe  
USS Corporation  
P.O. Box 417  
Mountain Iron, MN 55768

RE: Project: NPDES-Line 3 Wkly  
Pace Project No.: 1264921

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on April 27, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Melisa M Woods  
melisa.woods@pacelabs.com  
Project Manager

Enclosures

cc: Terri Sabetti, NTS



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: NPDES-Line 3 Wkly

Pace Project No.: 1264921

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### Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

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## SAMPLE SUMMARY

Project: NPDES-Line 3 Wkly

Pace Project No.: 1264921

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1264921001	WS-002 Scrubber Make-Up	Water	04/27/16 08:45	04/27/16 14:55
1264921002	WS-003 Thickner Overflow	Water	04/27/16 08:35	04/27/16 14:55

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## SAMPLE ANALYTE COUNT

Project: NPDES-Line 3 Wkly

Pace Project No.: 1264921

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1264921001	WS-002 Scrubber Make-Up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V
1264921002	WS-003 Thickner Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V

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## ANALYTICAL RESULTS

Project: NPDES-Line 3 Wkly

Pace Project No.: 1264921

Sample: <b>WS-002 Scrubber Make-Up</b> Lab ID: <b>1264921001</b> Collected: 04/27/16 08:45 Received: 04/27/16 14:55 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 MET ICP, Lab Filtered</b> Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	<b>112</b>	mg/L	5.0	0.29	10	04/29/16 10:53	05/02/16 12:05	7440-70-2	
Magnesium, Dissolved	<b>210</b>	mg/L	5.0	0.67	10	04/29/16 10:53	05/02/16 12:05	7439-95-4	
Total Hardness, Dissolved	<b>1140</b>	mg/L	100	50.0	10	04/29/16 10:53	05/02/16 12:05		
<b>300.0 IC Anions 28 Days</b> Analytical Method: EPA 300.0									
Sulfate	<b>737</b>	mg/L	20.0	10.0	10		04/28/16 19:03	14808-79-8	

Sample: <b>WS-003 Thickner Overflow</b> Lab ID: <b>1264921002</b> Collected: 04/27/16 08:35 Received: 04/27/16 14:55 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 MET ICP, Lab Filtered</b> Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	<b>734</b>	mg/L	5.0	0.29	10	04/29/16 10:53	05/02/16 12:08	7440-70-2	
Magnesium, Dissolved	<b>31.2</b>	mg/L	5.0	0.67	10	04/29/16 10:53	05/02/16 12:08	7439-95-4	
Total Hardness, Dissolved	<b>1960</b>	mg/L	100	50.0	10	04/29/16 10:53	05/02/16 12:08		
<b>300.0 IC Anions 28 Days</b> Analytical Method: EPA 300.0									
Sulfate	<b>1340</b>	mg/L	40.0	20.0	20		04/28/16 19:25	14808-79-8	

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## QUALITY CONTROL DATA

Project: NPDES-Line 3 Wkly  
Pace Project No.: 1264921

QC Batch: MPRP/6808 Analysis Method: EPA 200.7  
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET Dissolved  
Associated Lab Samples: 1264921001, 1264921002

METHOD BLANK: 311457 Matrix: Water  
Associated Lab Samples: 1264921001, 1264921002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.50	0.029	05/02/16 10:38	
Magnesium, Dissolved	mg/L	ND	0.50	0.067	05/02/16 10:38	

LABORATORY CONTROL SAMPLE: 311458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	50	51.8	104	85-115	
Magnesium, Dissolved	mg/L	50	51.0	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 311459 311460

Parameter	Units	1264895001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	354	50	50	406	402	103	96	70-130	1	20	
Magnesium, Dissolved	mg/L	128	50	50	178	177	99	97	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 311461 311462

Parameter	Units	1264968001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	10.1	50	50	61.6	61.0	103	102	70-130	1	20	
Magnesium, Dissolved	mg/L	3.7	50	50	55.3	54.8	103	102	70-130	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALITY CONTROL DATA

Project: NPDES-Line 3 Wkly

Pace Project No.: 1264921

QC Batch: WETA/16539

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1264921001, 1264921002

METHOD BLANK: 311055

Matrix: Water

Associated Lab Samples: 1264921001, 1264921002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	1.0	04/28/16 11:43	

LABORATORY CONTROL SAMPLE: 311056

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	48.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 311057 311058

Parameter	Units	1264960002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	2.5	50	50	53.3	53.2	102	102	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 311059 311060

Parameter	Units	1264936001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	9.8	50	50	61.4	61.4	103	103	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: NPDES-Line 3 Wkly

Pace Project No.: 1264921

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-V Pace Analytical Services - Virginia

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NPDES-Line 3 Wkly

Pace Project No.: 1264921

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1264921001	WS-002 Scrubber Make-Up	EPA 200.7	MPRP/6808	EPA 200.7	ICP/5135
1264921002	WS-003 Thickner Overflow	EPA 200.7	MPRP/6808	EPA 200.7	ICP/5135
1264921001	WS-002 Scrubber Make-Up	EPA 300.0	WETA/16539		
1264921002	WS-003 Thickner Overflow	EPA 300.0	WETA/16539		

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## CHAIN-OF-CUSTODY / Analytical Request Document

**The Chain-of-custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.**

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company:	USS Corporation	Report To:	Tom Moe	Attention:	
Address:	P.O. Box 417	Copy To:		Company Name:	
				Address:	
Mt. Iron, MN 55788				Pace Quote:	
Email:		Purchase Order #:		Pace Project Manager:	hea
Phone:		Project Name:	NFDES-LINE 3 Wkly	Pace Profile #:	
Requested Due Date:		Project #:			

**W0# : 12649Z1**


**PM: MMW**

**CLIENT: USS CORP**

**Due Date: 05/11/16**

1 of 1

[illegible]

	Document Name:	Document Revised: 23Feb2015
	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

**Sample Condition Upon Receipt**

Client Name: USS Corporation Project #: \_\_\_\_\_

**WO#: 1264921**



1264921

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client  
☐ Commercial ☐ Pace ☐ Other: \_\_\_\_\_

Tracking Number: \_\_\_\_\_

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other: Harped Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.7 Cooler Temp Corrected °C: 3.0 Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A  
Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: 4/27/16

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>wt</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

**CLIENT NOTIFICATION/RESOLUTION**

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

Field Data Required? ☐ Yes ☐ No

FECAL WAIVER ON FILE ☐ Y ☐ N TEMPERATURE WAIVER ON FILE ☐ Y ☐ N

Project Manager Review: Melvin Webb Date: 4/27/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)